

Battaglia, Frank

From: Battaglia, Frank
Sent: Thursday, June 22, 2017 12:28 PM
To: 'Crawford, Jeffrey (DEM)'
Subject: RE: [EXTERNAL] : RE: Objectives

That's what we were thinking of doing ... dry run calculations. Our target for PCBs is 10 mg/kg and it is the only chemical of concern so the cumulative and individual cleanup objectives are the same. Thanks

From: Crawford, Jeffrey (DEM) [mailto:jeff.crawford@dem.ri.gov]
Sent: Thursday, June 22, 2017 11:46 AM
To: Battaglia, Frank <battaglia.frank@epa.gov>
Subject: RE: [EXTERNAL] : RE: Objectives

Frank- I spoke to Richard about your inquiry. The 95% UCL has to be low enough to meet the 10- 5 and 10-6 in the regulations. Without seeing all the data generated through the years, its difficult for us to say. So the number you are looking for could be derived from you conducting dry run calculations with data to date. And determining the soil cleanup objective to meet the cumulative and individual targets.

From: Battaglia, Frank [mailto:battaglia.frank@epa.gov]
Sent: Thursday, June 22, 2017 10:52 AM
To: Crawford, Jeffrey (DEM) <jeff.crawford@dem.ri.gov>
Cc: Battaglia, Frank <battaglia.frank@epa.gov>
Subject: [EXTERNAL] : RE: Objectives

Jeff, sorry I am late in getting back to you and Rich regarding the 95th percentile question highlighted in red below.

We are wondering if using the statistical method (95% UCL) to determine if the cleanup meets the 10mg/kg PCB target level in soils. The actual definition is in green below. We could also add that no sample in the population can exceed a certain number such as 20 mg/kg:

The technical **definition** of a **95% UCL** is "a number that one can be **95%** confident that the true mean (average) concentration of the population is below that value." A slightly simpler **definition** is that it is a level that we are confident is health protective when we use it to calculate risks and hazards.

Call me if you need to discuss. Thanks.

Frank
617 918-1362

From: Crawford, Jeffrey (DEM) [mailto:jeff.crawford@dem.ri.gov]
Sent: Friday, June 02, 2017 9:15 AM
To: Battaglia, Frank <battaglia.frank@epa.gov>
Subject: FW: Objectives

Here's our reg's. Still waiting to hear from DOH about fish advisory and Richard Enander had a question about what specifically are you looking for about the 95 percentile?

From: Enander, Richard (DEM)
Sent: Friday, June 02, 2017 9:10 AM
To: Crawford, Jeffrey (DEM) <jeff.crawford@dem.ri.gov>
Subject: Objectives

Here you go:

8.01 Remedial Objectives: The appropriate remedial objectives for all Hazardous Substances in all impacted media at a Contaminated-Site shall be consistent with this Rule so as to manage the actual or potential risks to human health and the environment by ensuring that the following requirements are met:

- A. The remedial objective for each carcinogenic substance does not exceed a 1×10^{-6} excess lifetime cancer risk level and the cumulative excess lifetime cancer risk posed by the Contaminated-Site does not exceed 1×10^{-5} .

VS.

EPA's generally acceptable risk range of 10^{-6} to 10^{-4} as discussed in the National Contingency Plan (NCP), 40 CFR 300.430. Remedial action generally is not warranted...[when]... risk levels correspond to a **cumulative site risk** less than approximately 10^{-4} for exposure to **multiple** chemicals with potential carcinogenic effects